

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS

REVENUE PROGRAM GUIDELINES
(February 21, 1996, Revision)

INTRODUCTION

The Revenue Program Guidelines (Guidelines) are intended to provide assistance to all cities, counties, special districts and public agencies in developing, implementing, and maintaining revenue programs and implementing ordinances to comply with Section 204(b)(1) of the Clean Water Act, Federal and State Regulations, and Policies of the State Water Resources Control Board (SWRCB). In these Guidelines all cities, counties, special districts, and public agencies are referred to by the term "municipalities". These Guidelines apply to all recipients of State Revolving Fund (SRF) loans. Some municipalities may desire to deviate from specific provisions. Deviations should be discussed with the revenue program specialist. His phone number is (916) 227-4489.

The revenue program specialist of the Division of Clean Water Programs (Division) is available to answer inquiries relating to the preparation of revenue programs, these Guidelines, and implementing ordinances.

SECTION 1 - GENERAL

Section 1-1 - General Requirements

A. **Revenue program**

The revenue program is a formally documented determination of a user charge system developed by the municipality. It is designed to provide a source of revenue for operation, maintenance, and replacement (O. M. & R.) costs of the wastewater system that satisfies Federal and State requirements. In addition, debt service and revenue for establishing a capital reserve fund and an operating reserve fund may be collected by the system of charges based on actual use, or, if approved, by ad valorem taxes.

B. **System of service charges**

A system of service charges is developed first by estimating the municipality's annual revenue requirements for the total wastewater system O. M. & R., including those portions which were not grant or loan funded. Rates are then set based on the identification of the users and their respective contribution to the wastewater loading of the treatment works. This process is described in detail in these Guidelines.

C. **Revenue program submittals**

Revenue programs must be submitted to the Division by the municipality. Programs submitted by a consultant will not be reviewed unless accompanied by a cover letter from the municipality. All correspondence must include the following information and be signed by the authorized representative:

1. Municipality's name, address and phone number;
2. Loan number(s); and

3. Purpose of revenue program (draft, final or update).

D. **Facilities plan submittals**

A draft (proposed) revenue program and a draft of an ordinance or resolution dedicating a source of funds for repayment of the SRF loan (see Section 4 on Page G-11 of these Guidelines) must be submitted to the Division as part of the facilities plan during the planning process. The draft revenue program will be reviewed by the Division and the municipality will be informed of any deficiency in the proposed user charge system. The draft revenue program must be approved by the Division prior to Division approval of the facilities plan. The final ordinance or resolution dedicating a source of funds for repayment of the SRF loan must be adopted by the municipality before issuance of a loan contract.

E. **Final submittal requirements**

A final revenue program and adopted sewer use ordinance (see Section 3 on Page G - 11 of these Guidelines), must be submitted to, and approved by, the Division prior to pay out of funds beyond 90 percent of the loan amount. The sewer use ordinance must be enforced upon completion of construction.

F. **Rate ordinance or resolution**

A draft of the proposed rate ordinance or resolution must be submitted with the final revenue program. An enacted rate ordinance or resolution must be submitted prior to completion of construction. The rates in the ordinance or resolution must agree with those shown in an approved revenue program. A new revenue program will be required when O. M. & R. costs change substantially. The enacted rate ordinance or resolution must be enforced upon completion of construction.

G. **Draft and final revenue program format**

The draft revenue program may be either separately bound and labeled or included with the facilities plan. If the revenue program is included with the facilities plan, it is the municipality's responsibility to insure that the Division's revenue program specialist receives a copy. The final revenue program must be separately bound and labeled. Only one copy needs to be submitted to the Division for approval.

H. **Revenue program forms**

The revenue program forms contained in these Guidelines, beginning on Page G - 29, if utilized, will facilitate Division review and approval. In most cases, the forms indicate all the information that is necessary for a revenue program.

I. **Pre-existing agreements**

The user charge system shall take precedence over any terms or conditions of agreements or contracts that the municipality may be party to that are inconsistent with the requirements of these Guidelines. (See also Section 1-4 B.4. on Page G - 6) If there are any pre-existing agreements or contracts that are inconsistent with the requirements of these Guidelines the municipality must notify the Division's revenue program specialist at the time a revenue program is submitted for review.

J. **Letter of intent**

A letter of intent executed by any industrial user which will contribute more than ten (10) percent of the treatment works design flow or design loading must be submitted with the draft revenue program. A

sample letter of intent is provided on Page G - 18. Letters documenting commitments by industrial users intending to increase flows or loadings or to locate in the municipality's service area in the future must also be submitted with the draft revenue program.

K. Public notice requirement

The charges developed in the revenue program and capital costs which are collected via a medium other than the user charge must be published in a newspaper of general circulation within the municipality's service area. The notice must substantially follow the format shown on Page G - 15.

Section 1-2 - Annual Revenue Requirements

A. Operation and maintenance, including replacement (O. M. & R.)

1. Municipalities need funds to pay the annual costs of O. M. & R. of the treatment works. These costs include the costs of labor, power, chemicals, supplies, laboratory control and monitoring, general administration, billing, and incidental items incurred during normal operation. Also included are those expenditures termed ordinary repairs necessary to keep the treatment works in proper operating condition, replacement (as defined below) and other administrative costs, such as overhead and accounting which are directly related to the O. M. & R. of the treatment works.
2. An estimate of O. M. & R. costs should be made by adjusting the municipality's latest operating cost data to reflect operational changes, wage escalation, and staffing changes. In the case of newly constructed facilities, estimated O. M. & R. costs must be listed in the facilities plan by the engineer.

B. Replacement costs

1. A separate line item for replacement must be shown in the calculation of the annual revenue requirements. Replacement costs include all expenditures required for a facility to operate for its design life. Replacement costs do not include the following capital costs:
 - a. Major rehabilitations which may be needed as individual unit processes near the end of their useful life;
 - b. Structural rehabilitations; or
 - c. Facility expansions or upgrades to meet future user demands or upgrade treatment.
2. Replacement costs include such items as: pumps, motors, telemetry and electrical controls, air scrubbing equipment, chlorination and dechlorination equipment, vehicles, radios, etc.
3. Replacement costs should be based, at a minimum, on a five (5) year planning cycle. For example, assume that a municipality estimates it will have to replace \$85,000 worth of equipment over the next five (5) years and it has \$10,000 in the replacement account. The annual replacement cost to be included in the user charge would be:

$$\frac{\$85,000 - \$10,000}{5 \text{ years}} = \$15,000 \text{ per year}$$

This cost must be recalculated each year.

4. The municipality may, in lieu of the five (5) year replacement plan, deposit an amount in the replacement fund equal to the sum of the straight line depreciation (based on current costs) of the assets (excluding structural facilities such as buildings, ponds, pipes, etc).

C. **Debt service**

1. Debt service is the annual sum of the principal and interest payments on proposed or outstanding obligations secured by bonds or loan contracts. A SRF loan received from the SWRCB must be repaid via a dedicated source of revenue (see Section 4 on Page G - 11 of these Guidelines). A separate account must be maintained within either the debt service fund or the enterprise fund for repayment of the SRF loan.

D. **Wastewater capital reserve fund**

1. Municipalities participating in the SRF program are required to establish a wastewater capital reserve fund (WCRF), prior to receiving a loan contract. The WCRF is required to help pay for future expansion, improvements, and rehabilitation. Payments to the WCRF usually appear as a separate line item within the annual budget.

E. **Operating reserve fund (optional)**

1. Municipalities are encouraged to establish an operating reserve fund to insure the proper operation of the treatment works. This fund is intended to satisfy costs associated with unanticipated price increases, additional chemical usage, etc. It does not include costs for replacement of equipment. Wastewater agencies in California normally operate with reserves of between 10 and 50 percent of annual revenue requirements.

Section 1-3 - Identification Of Users

- A. After the annual revenue requirements are determined, the users of the treatment works and their associated wastewater flows and loadings (BOD₅, SS, or other appropriate constituents) must be identified. Flows and loadings must be documented for the user groups listed below, in order that proportional costs can be calculated. All users of the treatment works must be included in the revenue program.

1. **Residential users** Individual cost allocations need not be made for various types of residential users. However, municipalities may wish to divide residential users into single family, multiple family, or mobile home subgroups to allow for more refined cost allocations.
2. **Commercial users** Because of great variability in wastewater flow rates, the commercial group should be divided into appropriate subgroups defined in the **Commercial User Strength Characteristics** table on Page G - 21 of these Guidelines. The strengths given on Page G - 21 need not be used if the municipality has supportable data relating to other specific loadings. Large commercial users discharging more than 25,000 gallons per day must have their costs allocated individually.
3. **Institutional users** Costs must be allocated to individual users or to user groups, such as public or private hospitals, convalescent homes, schools, colleges, correctional facilities, etc.
4. **Industrial users** Because of great variability in wastewater flow rates, the industrial group may need to be divided into appropriate subgroups. Industrial users contributing more than 25,000 gallons per day or using five (5) percent, or more, of plant design capacity must have costs allocated individually.

5. **Outside municipalities** Any outside municipality discharging to the treatment works must be listed as a separate user group.
6. **Septage** If septage is received by the treatment works, this category must be listed as a user group with the corresponding flows and loadings. The charges established for septage must be based on its contributing loadings. Generally, a 1,000 gallon dumping contains 45 lbs (5,400 mg/l) of BOD₅ and 100 lbs (12,000 mg/l) of SS. These loadings should be used for septage from residential septic tanks only. Other types of septage from commercial or industrial sources must be sampled at the discharger's expense to allow a proper charge and prevent unacceptable discharges.

Section 1-4 - Allocation Of Annual Revenue Requirements And Rate Determination

A. Rate determination

1. Allocation of annual costs is done in two steps. First, the cost is allocated among the treatment parameters (flow, BOD₅, SS, and other appropriate constituents) in proportion to the percentage of costs that these parameters represent. Second, these amounts are divided by either total annual plant loadings or total design loadings to produce unit costs for each parameter. When these unit costs are multiplied by the loadings or design quantities of each user, an annual rate in proportion to the user's demand on the system is established.

B. Policies affecting rate determination

1. Users pay costs of O. M. & R.

The portion of the annual revenue requirements which constitute the cost of O. M. & R. of the treatment works must be recovered from users of the system by means of a user charge system based either on actual use or through a pre-approved ad valorem tax system. User charges must recover the cost of O. M. & R. from users based on their proportionate contribution to the total wastewater loading from all users. The total O. M. & R. budget may, however, be offset by income derived from the operation of the treatment works; such as sale of used equipment, sludge, sludge gas, residues, reclaimed wastewater, farm crops, power created by the effluent or other by-products. Investment income from assets of the wastewater enterprise is also considered operating income if the assets were originally funded with income generated from user charges.

2. Low income discount allowed

Municipalities may (at their option) adopt reduced (less than proportionate share) rates for low income residential users. Low income users are defined as any user whose income is below the poverty rate established within the municipality's service area. These reduced service charges, if used, must be based on an economic consideration only. The discount may not be applied only to a subgroup under the poverty level (i.e., only to senior citizens).

3. Rules for low income discount

If the municipality decides to adopt a low income discount rate the following rules apply:

- a. The discount rate selected will apply to all users who qualify for the discount;
- b. Eligibility for the discount must be verified at least annually; and

- c. All revenues which are lost because of the discount must be recovered from other users of the system through increased service charges. The provisions of Section 1-1 K. (Public Notice) of these Guidelines apply to the granting of discounted rates.

4. **Pre-existing agreements**

Any pre-existing agreements which levy O. M. & R. charges for more or less than the rates calculated through the revenue program based on actual (or estimated) use will not be allowed to continue, and the charges must be revised to reflect the approved rates. (refer to Section 1-1 I. on Page G - 2)

5. **Recovering non O. M. & R. costs**

- a. The Division recommends that funds for the cost of debt service, capital improvements, etc. be collected with the O. M. & R. service charge in proportion to the cost of the service rendered. However, the municipality may charge for these other revenue requirements through service charges, ad valorem taxes, or standby charges or assessments. If they are collected through service charges, and the municipality does not wish to recover these other costs in proportion to system use, public notice describing the impacts of the proposed rate structure is required. An opportunity for public comment within a reasonable period of time prior to final adoption of the rate ordinance by the municipality must be given. Notice shall be given by direct mailing to all organizations and individuals who have previously requested such notice and to all users of the system who will be adversely affected by the change in rates.
- b. The notice must substantially follow the format of the Public Notice Format on Page G - 26 of these Guidelines. The municipality may wish to include in the notice, a discussion of the facts which prompted the proposed rate ordinance, and the pros and cons of the enactment.

C. **Allocation of costs based on flow only**

- 1. Allocation of O. M. & R. costs based on flow only may be made if either one of the following conditions are met:
 - a. The municipality's service area (or the service area of a municipality participating in a regional system) contains less than 10,000 current population, no industrial users, and does not receive septage flows; or
 - b. The residential design flow exceeds 95 percent of total design flow of the treatment works and there are no industrial or septage flows.

D. **Allocation of costs based on ad valorem (A/V) taxes**

- 1. A municipality's user charge system based on ad valorem (A/V) taxes may be approved if:
 - a. On December 27, 1977, the municipality had in existence a system of dedicated A/V taxes which collected revenues to pay the cost of O. M. & R. of wastewater treatment works within its service area, and it has continued to use that system;
 - b. The A/V user charge system distributes the O. M. & R. costs for all treatment works within the municipality's service area to the residential and small non-residential user class

(including, at the municipality's option, nonresidential, commercial and industrial users that are not required to have their costs allocated individually per Section 1-3 A.2 and A.4. of these Guidelines);

- c. Each industrial and commercial user which discharges more than 25,000 gallons per day (or more than five (5) percent of the design flow) must pay its share of O. M. & R. costs of the treatment works based on charges for actual use; and
 - d. A system of surcharges and rebates is instituted to insure that all users (or user groups) pay their proportionate share of the O. M. & R. costs.
2. The user charge for tax exemption organizations may not be adjusted to recoup lost taxes (160 Cal Rptr 925; 100 CA 3d547).

E. **Allocation of costs of infiltration and inflow (I / I)**

1. The user charge system shall provide that costs of O. M. & R. for all infiltration and inflow (I / I) flows not directly attributable to users be distributed among all users based upon either of the following:
 - a. In the same manner that it distributes the costs for their actual use; or
 - b. Under a system which uses one or any combination of the following factors on a reasonable basis:
 - (i) Flow volume of the users;
 - (ii) Land area of the users;
 - (iii) Number of hookups or discharges of the users;
 - (iv) Property valuation of the users (if A/V taxes are used).

F. **Administrative costs**

1. Administrative costs may be included in the O. M. & R. cost allocation, or they may be separated and allocated on another equitable basis, such as number of accounts.

Section 1-5 - Implementation And Maintenance

A. **Implementing ordinances**

1. A municipality's user charge system, as described in the final revenue program, must be incorporated in one or more municipal legislative ordinances or other legally binding requirements.
2. If the treatment works accepts wastewater from other municipalities, the other municipalities receiving waste treatment services must also adopt user charge systems in accordance with these Guidelines.

B. **Accounting systems**

1. All special districts including county water, community service and public utility districts must use the uniform system of accounts prescribed for wastewater disposal districts under Title 2, Division 2, Chapter 2, Sections 1101.1 through 1103.4 of the California Administrative Code. Those

municipalities not subject to the uniform system of accounts must establish accounting systems for wastewater treatment conveyance, treatment, and disposal which will provide essentially the same level of detail as the uniform system.

- a. Wastewater activities will be accounted for in an enterprise fund. An enterprise fund is a fund established to account for operations; (a) that are financed and operated in a manner similar to private business enterprises - where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.
2. The enterprise fund will consist of at least two revenue and three expense accounts as follows:
 - a. **Revenue accounts**
 - (i) **Service charge revenue** Only service charges, dedicated A/V taxes and income generated from the operation of the wastewater facility (see Section 1-4 B. 1. of these Guidelines) will be deposited to this account. Funds from this account may be used for any wastewater related activity.
 - (ii) **Capital revenue** All other sources of revenue (i.e., connection fees, augmentation funds, standby charges, non-dedicated A/V, etc.) will be deposited in this account. Funds from this account may only be used for facility expansion, facility upgrade and major rehabilitation projects. O. M. & R. costs may **not** be funded from this account (see Section 1-2 B. of these Guidelines for discussion of replacement costs).
 - b. **Expense accounts**
 - (i) **Operation and maintenance** Designated for the specific purpose of defraying the operation and maintenance costs of wastewater conveyance, treatment, and disposal. These costs must be funded from the service charge revenue account.
 - (ii) **Replacement** Designated for the specific purpose of ensuring that replacement funds are available to maintain the capacity and performance of the treatment works over its useful life. This fund does not include money set aside for unexpected price increases which should be accumulated in an operating reserve fund. Replacement costs must be funded from the service charge revenue account.
 - (iii) **Capital expenditures** Designated for any other wastewater related activity not properly included in either the Operations and Maintenance Account or Replacement Account. Either of the above mentioned Revenue Accounts (see 2.a.(i) and 2.a.(ii) above) may be used to fund expenditures charged to this account.

C. Temporary loaning of funds

1. The aforementioned requirements do not preclude the loaning of funds from the wastewater enterprise accounts (including capital reserves) for other authorized uses provided the following conditions are met:
 - a. It has been established that these funds will not be needed for wastewater activities for the period of the loan;
 - b. The loan is recorded in the appropriate wastewater fund account with the loan period specifically shown;
 - c. The fund borrowing the money repays the loan with at least as much interest as the money would have earned if the money had not been loaned; and
 - d. There are no other regulations, bond covenants, etc. limiting the loaning of the funds.

D. Requirements for review and approval

1. Implementation and maintenance of an approved revenue program is required as a condition of every loan contract. Each municipality must maintain all records which are necessary to document compliance with appropriate State and Federal requirements.
2. The financial documents, audits, budgets, user charge system, etc. of the municipality's wastewater enterprise are subject to review by the staff of the SWRCB to insure compliance with these Guidelines during the life of the SRF loan.
3. The municipality shall review and revise its system of service charges and rate ordinances or resolutions as necessary to reflect actual funding needs of the treatment works.
4. Any time that rates are changed, a copy of the review work papers and rate ordinance or resolution modification, if any, shall be forwarded to the Division's revenue program specialist for review and approval.

SECTION 2 - SPECIAL CONSIDERATIONS

Section 2-1 - Regional Treatment Systems

- A. When treatment works serving more than one municipality are consolidated into a regional system, the following requirements for institutional and financial arrangements apply:

1. Institutional arrangement

Any number of institutional arrangements between agencies participating in a regional system are acceptable. Special districts or joint powers authorities may be formed or service agreements entered into which designate a municipality as "lead agency" to apply for and receive a loan. Regardless of which institutional arrangement is chosen, the user charge system outlined in the revenue program must cover all wastewater treatment services provided and each participating municipality must adopt its own user charge system and rate ordinance or resolution.

2. **Submission of a revenue program for a regional system**

- a. If the regional municipality is authorized to bill all of the individual users of the system, only one revenue program and rate ordinance or resolution is required.
- b. If the regional municipality bills a subscribing municipality, which in turn bills the individual users, separate revenue programs and rate ordinances or resolutions are required for the regional municipality and each subscribing municipality. The regional municipality's charges to a subscribing municipality must be based on actual use and include the fixed cost of reserved capacity if capacity is reserved for specific subscribing municipalities.

3. **Interagency agreements**

All interagency agreements for wastewater services and/or charges must be submitted to the Division for review. These agreements should address the issue of how the costs of future plant expansions will be allocated.

Section 2-2 - Individual Systems

- A. The user charge system requirements apply to SRF loan funded alternative wastewater treatment systems (including dual waterless/gray water systems), even if privately owned, which are neither connected to nor are part of any conventional treatment system.

Section 2-3 - Connection Fees

- A. Normally, a portion of the capital costs of a project are recovered from future users through connection fees. If connection fees are not collected because anticipated growth does not occur, the capital costs of the plant must be recovered from the existing users. Because anticipated growth does not always occur, existing users should be informed of these potential costs before commitments are made to fund the project. Accordingly, for treatment works with more than 25 percent of the total treatment plant capacity reserved for future users, an analysis is required of the charges which would be assessed to existing users if anticipated growth does not occur. This analysis must be included in the proposed revenue program.
- B. Connection fees may be used to recover debt service costs which would have been recovered on an annual basis, if the user had been connected when the treatment works began operation. This fee may not be used to recover excessive cost from future users of treatment works in order to reduce charges to current users. Connection fees may not be used to fund replacement costs.

Section 2-4 - Standby Charges

- A. Standby charges may be used to recover debt service from potential users prior to connection, if service is available and the standby charge is proportionate to the available service. Standby charges shall not be charged to properties for which no capacity or insufficient capacity is available.

Section 2-5 - Minimum Charges

- A. If a municipality charges flat rate for some users and a variable rate (such as water consumption), for others, a minimum charge may be established for the variable rate users to collect the fixed costs of providing service. This charge must not be more than the minimum charged to any user group which is

charged a flat rate. For example, if apartments are charged a flat rate which is less than the single family rate, the minimum charge to customers paying on water consumption would be the rate charged to apartments, not single family residences. The same minimum charge must be applied to all user groups which have a minimum charge, unless it can be shown that fixed costs vary significantly.

SECTION 3 - SEWER USE ORDINANCE

- A. A sewer use ordinance or other legally binding document shall prohibit any new connections from inflow sources into the treatment works and require that new sewers and connections to the treatment works are properly designed and constructed. The ordinance or other legally binding document shall also require that all wastewater introduced into the treatment works not contain toxics or other pollutants in amounts or concentrations that endanger public safety and physical integrity of the treatment works; cause violation of effluent of water quality limitations; or preclude the selection of the most cost-effective alternative for wastewater treatment and sludge disposal. Refer to Pages G - 16 and G - 17 of these Guidelines.

SECTION 4 - DEDICATED SOURCE OF REVENUE

- A. Section 603(d)(1)(C) of the Federal Clean Water Act Amendments require each loan recipient to establish one or more dedicated sources of revenue for repayment of the loan. A dedicated source can be a special assessment, general taxes, general obligation bonds, revenue bonds, user charges, or other sources.
- B. Revenue will be considered dedicated when the municipality passes an ordinance or resolution committing a source of funds for repayment. The ordinance or resolution dedicating a source of funding for repayment of the loan must be adopted before issuance of the loan contract.
- C. Ordinance or resolution language equivalent to the following would be acceptable:
 - 1. The (municipality) hereby dedicates the following source of revenue (user charge, proceeds of revenue bonds, etc.) to repayment of any and all State Revolving Fund loans on Project No. C-06-_____ - __. This dedicated source of revenue shall remain in effect until such loan or loans are fully discharged unless modification or change of such dedication is approved in writing by the State Water Resources Control Board.

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DEFINITIONS

As used in these Guidelines, the following words and terms shall have the meaning as set forth below:

Ad Valorem Tax (A/V): A tax based upon the value of real property.

Applicant: A municipality that has (or will) applied for a SRF loan.

CAC: California Administrative Code.

Capital Costs: Costs of facility expansion, facility upgrades, major rehabilitation or construction/replacement to extend the useful life of the facility.

Combined Sewer: Sewage - storm or industrial - storm drain combination.

Commercial User: All non-residential and non-industrial users including retail stores, restaurants, office buildings, laundries, and other private business and service establishments, including churches and lodges.

Connection Fee: A fee paid by a new system user for the capital costs of capacity made available for its use.

Construction: The planning, designing, and construction of any treatment works.

Division: The Division of Clean Water Programs of the State Water Resources Control Board.

Financial Plan: A description of the proposed institutional arrangements that will be used to manage the project, and of the amount and sources of funds necessary to finance the municipality's share of the project cost and to provide for cash flow during the design and construction periods.

Future Capacity: Available treatment works capacity which is not needed to serve existing users.

Industrial User: Any non-governmental non-residential user of publicly owned treatment works which is identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget, as amended and supplemented, under the following divisions:

- a. Division A - Agricultural, Forestry, and Fishing;
- b. Division B - Mining;
- c. Division D - Manufacturing;
- d. Division E - Transportation, Communications, Electric, Gas, and Sanitary; and
- e. Division I - Services.

A user in the divisions listed may be excluded if it is determined that the user will introduce primarily segregated domestic waste or wastes from sanitary conveniences.

Infiltration: Water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

Inflow: Water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs

and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from infiltration.

Municipality: Any political subdivision of the state such as a county, city, special district or public agency formed under the laws of the state.

O. M. & R.: Operation, maintenance and replacement.

Project: The scope of work for which assistance is awarded by a loan contract.

Rehabilitation: Extraordinary expenditures for obtaining and installing equipment, accessories, or appurtenances which extend the useful life and/or improve the capacity or efficiency of the treatment works as originally designed. Rehabilitation costs are considered capital outlays.

Replacement: Expenditures for obtaining and installing equipment, accessories, or appurtenances which are necessary during the useful life of the treatment works to maintain the capacity and performance for which such works were designed and constructed.

Residential User: All single family, 2-family (duplex), 3-family (triplex), and 4-family (quadplex) homes used primarily for human habitation. Multiple family structures (town house or apartment house) or mobile homes when sewer service is billed to individual families as renters or owners should be considered residential users. Town houses and apartment houses and mobile home parks billed to a collective owner or manager are not considered residential users.

Revenue Program: A formal documentation of charges designed to provide revenues for O. M. & R., and local debt service for treatment works, and which demonstrates compliance with SRF policies on user charges.

Service Charge: A charge levied on a user of the treatment works which includes a user charge to recover the costs of O. M. & R. and which may include a charge for capital reserve and debt service.

Treatment Works: Any devices and systems used in collection, transport, storage, treatment, disposal, recycling, and reclamation of municipal sewage or industrial wastes of liquid nature, or necessary to recycle or reuse water at the most economical cost over the useful life of such works.

User: A recipient of wastewater collection and/or treatment services as described in the definition of "Treatment Works".

User Charge: A charge levied on users of a treatment works for the cost of O. M. & R.

SAMPLE NOTIFICATION OF USE
OF AD VALOREM TAXES

In accordance with Section 204(b)(1)(A) of the Clean Water Act and/or State Water Resources Control Board Policies (municipality's name) is required to notify all users of its wastewater treatment works of the rate and that portion of user charges and ad valorem (property) taxes attributable to wastewater services. (municipality's name) collects service charges and receives a portion of the one percent (1%) general tax levy collected each year from property owners within its boundaries (attach map if appropriate). This notice is being published in conjunction with the mailing of the Joint Consolidated Tax Bill by the (County) tax collector.

In fiscal year (year), (municipality's name) is expected to receive (percent to be received), (assume 4% for this example) of the one percent general tax levied within (municipality's name). In order to estimate the amount of ad valorem taxes contributed by your parcel, multiply one percent of the assessed value of your property by (four) percent. As an example, \$100,000 of assessed value contributes the following:

$$\$100,000 \times 0.01 \times 0.04 = \$40.00$$

(municipality's name) will also assess a service charge of (amount) per year per single family residence. Other residential, commercial and industrial users pay a proportional charge as stipulated in Ordinance (or Resolution) No. ____.

The above revenues are used exclusively to provide wastewater services within (municipality's name) boundaries.

**SATISFACTORY EVIDENCE OF COMPLIANCE
SEWER USE ORDINANCE**

I, (Name) certify, as duly authorized representative of (municipality), that the (municipality) will have, in each jurisdiction served by the treatment works, an enacted sewer use ordinance or other legally binding requirement which will:

1. Prohibit any new connections from inflow sources to the sanitary sewer portions of the sewer system;
2. Require new sewers and connections to the sewer system to be properly designed and constructed; and
3. Prohibit the introduction into the treatment works of any toxics or other pollutants in amounts or concentrations that endanger public safety and physical integrity of the treatment works; or cause violation of effluent or water quality limitation; or preclude the selection of the most cost effective alternative for wastewater treatment and sludge disposal.

This ordinance will be enacted prior to ninety percent (90%) of construction and enforced upon completion of construction.

Date (typed)

Name (signature)

Telephone

Title

SAMPLE PARAGRAPHS TO SATISFY
THE SEWER USE ORDINANCE REQUIREMENTS

1. The ordinance shall prohibit any new connections from inflow sources into the sanitary sewer portions of the sewer system.

Example: Prohibited Waste Discharges

No person shall discharge or cause to be discharged any rainwater, storm water, groundwater, street drainage, subsurface drainage, yard drainage, including evaporative type air cooler discharge water, to any public or private sewer which directly or indirectly connects to the wastewater treatment works of the (municipality).

2. The ordinance shall insure that new sewers and connections to the sewer system are properly designed and constructed.

Example: Construction Standards

Plans for sewer construction shall meet all design requirements of the public corporation having area jurisdiction and shall also meet the design requirements as established from time to time by the Engineer;

and

Inspection of all sewer construction shall be made by personnel of the (municipality) in the manner described in the following sections:

3. The ordinance shall prohibit the introduction of toxics and certain pollutants.

Example: Prohibited Discharges

No person shall discharge or cause to be discharged to any public or private sewer which directly or indirectly connects to the (municipality's) wastewater treatment works any toxic or other waste, if in the opinion of the (manager) such wastes may have an adverse or harmful effect on sewers, maintenance personnel, wastewater treatment plant personnel or equipment, treatment plant effluent quality, public or private property, or may otherwise endanger the public, the local environment or create a public nuisance. The (manager) in determining the acceptability of specific wastes, shall consider the nature of the waste and the adequacy and nature of the collection, treatment and disposal system available to accept the waste.

GOURMET SOUP COMPANY

Administration Building, Suite 9
Franklin, CA 98765-4321

Mr. Craig Hagen
Board of Directors
Greater Franklin Sanitary District
Franklin, CA 98765

Dear Mr. Hagen:

LETTER OF INTENT, ALLOCATED COSTS OF WASTEWATER TREATMENT

It is the intent of the Gourmet Soup Company (Company) to utilize the wastewater treatment facilities of the Greater Franklin Sanitary District (District) to treat approximately 100,000 gallons per day of process wastewater from our facility. This wastewater is expected to have an average strength of 1,200 mg/l of BOD₅ and 3,000 mg/l of SS.

It is understood by the Company that the wastewater treatment facilities were funded, at least in part, by a loan from the State of California. It is further understood that as a condition of this loan, the Company must pay to the District the full cost of operation, maintenance and replacement costs attributable to treating the Company's wastewater.

It is the Company's understanding that if there is a substantial change in the strength, volume, or delivery flow rate characteristics of the waste introduced into the treatment works by the Company, the charges will be adjusted accordingly, and that if there is an expansion or upgrading of the treatment works, charges to the Company will be adjusted accordingly.

Although this letter represents a good faith estimate of period of use and capacity needed by the Company, it is not to be construed as binding the Company to continue discharging any quantity or quality of wastewater to the District's treatment works, to pay for capacity of treatment that it does not use, or to use the facilities for any definite length of time. The information given is provided only to assist the District in sizing the treatment works and to evidence awareness by the Company that it will be required to participate in payment of certain costs, including those described above.

Sincerely,

Mr. Charles Ellison,
Chairman of the Board

LIST OF USEFUL LIVES AND ALLOCATION PARAMETERS

To reasonably allocate costs among the various users of wastewater treatment works, a "useful life" must be determined for each major component. Also, the cost of each component must be attributed to its major function. Following is a list of acceptable useful lives and loading parameters. These are satisfactory for general applications. If other parameters or useful lives are used they must be substantiated by documentation or reference and approved by the Division.

TREATMENT UNITS COMPONENT	LOADING PARAMETER	USEFUL LIFE/YRS
Activated Sludge:		
Structure	25% BOD ₅ , 75% Flow	40
Equipment	BOD ₅	25
Chlorination Facilities:		
Structure	Flow	30
Equipment	Flow	12
Digester:		
Structure	50% BOD ₅ , 50% SS	30
Equipment	50% BOD ₅ , 50% SS	12
Grit Chamber:		
Structure	Flow	40
Equipment	SS	15
Influent Pump Station:		
Structure	Flow	40
Equipment	Flow	15
Miscellaneous:		
Buildings	Flow	40
Carbon Adsorption	BOD ₅	25
Interceptor	Flow	50
Outfall	Flow	75
Ponds:		
Embankment	Flow	50
Equipment	BOD ₅	20
Primary Clarifier:		
Structure	Flow	40
Equipment	35% BOD ₅ , 65% SS	25
Pumping Stations:		
Structure	Flow	40
Equipment	Flow	20
Screen or Comminutor:		
Structure	Flow	40
Equipment	SS	15
Secondary Clarifier:		
Structure	Flow	40
Equipment	BOD ₅	25
Sludge Thickening:		
Structure	50% BOD ₅ , 50% SS	40
Equipment	50% BOD ₅ , 50% SS	15
Trickling Filter:		
Structure	25% BOD ₅ , 75% Flow	40
Equipment	BOD ₅	20

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COMMERCIAL USER STRENGTH CHARACTERISTICS

<u>STANDARD CLASSIFICATIONS</u>	<u>BOD₅(ppm)</u>	<u>SS(ppm)</u>
Residential (average varies depending on average water usage per capita)	175 to 250	175 to 250
Auto Steam Cleaning	1,150	1,250
Bakery, wholesale	1,000	600
Bars without dining facilities	200	200
Car Wash	20	150
Department and Retail Store	150	150
Hospital and Convalescent	250	100
Hotel with dining facilities	500	600
Hotel/Motel without dining	310	120
Industrial Laundry	670	680
Laundromat	150	110
Laundry, commercial	450	240
Market with garbage grinders	800	800
Mortuary	800	800
Professional Office	130	80
Repair Shop and Service Station	180	280
Restaurant	1,000	600
School and College	130	100
Septage	5,400	12,000
Soft Water Service	3	55

NOTES ON COMMERCIAL USER STRENGTH CHARACTERISTICS

The list of commercial strengths listed on Page G - 21 was derived from data made available to the State Water Resources Control Board (SWRCB) staff by **East Bay Municipal Utility District, City of San Jose, Los Angeles County Sanitation Districts**, and the **Sacramento Regional County Sanitation District**. The results generally represent the mean of the values used by the agencies which collected the data with extreme values eliminated in some cases.

The SWRCB staff feels that the data on strength is representative of most cities in California. The data is provided for your information. The values in the table will be accepted by SWRCB staff. If you feel that the data provided in the table is not representative of your service area, please feel free to utilize more representative data. If strength values for commercial users other than those provided on this list are utilized, supporting data should be submitted to verify values used.

TABLE G-1
Estimated water consumption at different types of establishments.

TYPE OF ESTABLISHMENT	FLOW in GPD per
	PERSON or UNIT
Dwelling units, residential:	
Private dwellings on individual wells or metered supply	50-75
Private dwellings on public water supply, unmetered	100-200
Subdivision dwelling on individual well, or metered supply, per bedroom	150
Subdivision dwelling on public water supply, unmetered, per bedroom	200
Dwelling units, multiple:	
Apartment houses on individual wells	75-100
Apartment houses on public water supply, unmetered	100-200
Hotels:	50-100
Boarding houses:	50
Lodging houses and tourist homes:	40
Motels, without kitchens, per unit:	100-150
Camps:	
Pioneer type	25
Children's, central toilet and bath	40-50
Day camp, no meals	15
Luxury, private bath	75-100
Labor	35-50
Trailer with private toilet and bath, per unit	125-150*
Restaurants (including toilet):	
Average	7-10
Kitchen wastes only	2.5-3
Short order	4
Short order, paper service	1-2
Bars and cocktail lounges:	2
Average type, per seat	35
Average type, 24 hour, per seat	50
Tavern, per seat	20
Service area, per counter seat (highway)	350
Service area, per table seat (highway)	150
Institutions:	
Average type	75-125
Hospitals	150-250
Schools:	
Day	5-10
Day, with cafeteria or lunch room	10-15
Day, with cafeteria and showers	15-20
Boarding	75
Theaters:	
Indoor, per seat, two showings per day	3
Outdoor, including food stand, per car	3-5
Automobile service station:	
Per vehicle served	10
Per set of pumps	500
Stores:	
First 25 feet of frontage	450
Each additional 25 feet of frontage	400
Country clubs:	
Resident type	100
Transient type, serving meals	17-25
Offices:	10-15
Factories, sanitary wastes, per shift:	15-35
Self service laundry:	250-500
Bowling alleys, per alley:	200
Swimming pools and beaches, toilet and shower:	10-15
Picnic parks, with flush toilets:	5-10
Fairgrounds (based on daily attendance):	1
Assembly halls, per seat:	2
Airport, per passenger:	2½

* Add 125 gal. per space for lawn sprinkling, car washing, leakage, etc. NOTE: Water under pressure, flush toilets, and wash basins are assumed unless otherwise noted. Figures are flows per capita per day unless otherwise stated.

TABLE G-2

Design unit sewage flows for recreational facilities

(Yellowstone National Park)

Establishment	Unit	Flow in gpd
Cafeteria	Table seat	150
Campground (developed)	Person	25
Cocktail lounge	Seat	20
Coffee shop	Counter seat	250
Dining room	Table seat	150
Dormitory, bunkhouse	Person	50
Fish cleaning station	Station	7,500
Gas station	Station	2,000-5,000
Hospital	Bed	200
Hotel	Person	75
Laundromat	Washing machine	500
Lodge or cabins	Person	50
Mess hall	Person	15
Offices and stores	Employee	25
Residence homes, apartments	Person	75
Trailer village	Person	35
Visitor centers	Visitor	5

TABLE G-3

Sewage flows from commercial districts

Establishment	Unit	Flow in gpd
Airport	Passenger	5
Hotel	Person	100
Motel	Person	50
Restaurant	Meal	7
Shopping Center	Employee	60
Small business	Employee	20
Theater	Seat	5

TABLE G-4

Average sewerage flows from institutional facilities

Establishment	Unit	Flow in gpd
Elementary schools	Student & Staff	10
High schools	Student & Staff	20
Medical Hospital	Patient & Staff	175
Mental hospital	Patient & Staff	125
Prisons	Inmate & Staff	175

TABLE G-5

Miscellaneous water usage estimates

Item	Unit	Avg. gal. used
Air conditioner, home type, water cooled	gpd	2,880
Automatic home laundry machine	Load	30-50
" " " "	Person	6½-9
Bathtub	Per Use	30
Dishwashing machine, home type	Load	4-8
" " " "	Person	6
Dishwashing machine, commercial type, stationary rack	gpm	6-9
" " " " , Conveyor type	gpm	4-6
Drinking fountain, continuous flowing	gph	75
Garbage disposal, home type	Person	1-4
Shower head	Per Use	25-30
Wash basin	Per Use	1½
Water closet, tank	Per Use	4-5
Water closet, flush valve	gpm	30

TABLE G-6

Typical composition of domestic waste

Constituent	Strong	Medium	Weak
Alkalinity (as CaCO ₃)*	200	100	50
Biochemical Oxygen Demand, 5-day, 20°C (BOD ₅)	300	200	100
Chemical Oxygen Demand (COD)	1000	500	250
Chlorides*	100	50	30
Grease	150	100	50
Nitrogen, (total as N)	85	40	20
Organic	35	15	8
Free ammonia	50	25	12
Nitrites	0	0	0
Nitrates	0	0	0
Phosphorus, (total as P)	20	10	6
Organic	5	3	2
Inorganic	15	7	4
Settleable solids, (ml/liter)	20	10	5
Solids, total	1200	700	350
Dissolved, total	850	500	250
Fixed	525	300	145
Volatile	325	200	105
Suspended, total	350	200	100
Fixed	75	50	30
Volatile	275	150	70
Total organic carbon (TOC)	300	200	100

NOTE: All values except settleable solids are expressed in mg/liter.

* Values should be increased by amount in carriage water.

PUBLIC NOTICE FORMAT

NOTICE OF PROPOSED CHANGE IN WASTEWATER RATES

The City Council of the City of Hagenville is considering a rate ordinance for wastewater treatment which provides that capital costs will not be recovered in proportion to system use. The effect of the ordinance is to reduce costs to industrial and commercial users with a corresponding increase in the rates to residential users.

The following table shows the rates proposed to be charged typical users in the industrial, commercial, and residential categories using the proposed rate structure. The table compares these rates with what they would be if they were calculated in proportion to system use.

PROPOSED MONTHLY CHARGES

Type of User	Proposed Rates	Proportion to Use	Difference
Industrial User	\$1,500	\$2,000	-\$500
Typical Industrial User	\$750	\$1,000	-\$250
Typical Commercial User	\$300	\$400	-\$100
Typical Residential User	\$9	\$7	\$2

The City Council invites you to attend and participate in a public discussion of this proposed ordinance. It will be held:

Date:

Time:

Place:

Any comments which are received by the City Council prior to the date of the meeting will also be considered.

(A discussion of the facts which prompted the proposed rate ordinance and the pros and cons of its enactment may be inserted at the end of the notice or included on a separate sheet of paper.)

REVENUE PROGRAM FORMS
AND
INSTRUCTIONS

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Revenue Program Guidelines

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(Instructions on back of page)

Date_____

[illegible]

FORM 1 - SUMMARY OF USERS AND WASTEWATER CHARACTERISTICS (STRENGTH)

1. PURPOSE:

- a. To identify groups of residential, commercial and industrial users.
- b. To show wastewater characteristics, design capacity provided, and estimated annual volumes and quantities of pollutants for these groups, and for any special classifications.

2. TO COMPLETE THE FORM:

- a. Column (A): Enter the number of users (connections) in each group.
- b. Column (B): Enter names of users (user groups). See **Commercial User Strength Characteristics** on Page G - 21 of the Revenue Program Guidelines (Guidelines) for a list of typical user groups.
- c. Columns (C)-(E): Show wastewater characteristics for each parameter for each user (user group): Average dry weather flow (ADWF) in million gallons per day (MGD), biological oxygen demand (BOD₅) in parts per million (ppm) and suspended solids (SS) in parts per million (ppm). See Page G - 21 of these Guidelines for average strengths for typical users.
- d. Columns (F)-(H): Show facility design capacity for each user (user group). Design capacity is in MGD, BOD₅ and SS are in lbs/day.
- e. Columns (I)-(K): Enter annual contributions for each user for each parameter. VOLUME (I) is ADWF (C) times the number of days in a year (365). Some users (schools, canneries, etc.) may only operate for a portion of a year. Therefore, the number of days of operation may be less than 365. Total annual BOD₅ (J) is BOD₅ in ppm (D) times total annual volume (I) times 8.34. Total annual SS (K) is SS in ppm (E) times total annual volume (I) times 8.34.

3. NOTES:

- a. Other relevant parameters besides BOD₅ and SS may be used if they are consistent with the design basis of the treatment facility.
- b. Infiltration/inflow must be separately identified. The difference between ADWF (C) and design flow (F) is that design flow is the peak flow for seasonal users.

- c. DAILY AND ANNUAL TOTALS OF FLOW AND POUNDS OF BOD AND SS SHOULD CORRESPOND CLOSELY TO ACTUAL FLOW AND LOADINGS MONITORED AT THE WASTEWATER TREATMENT PLANT.

FORM 2 Annual O. M. & R. and Nonoperating Costs

(Instructions on back of page)

Municipality _____

Date _____

COST CATEGORY	CURRENT YEAR COSTS	FIRST YEAR OF FULL OPERATION
1. TREATMENT FACILITIES:		
(a) Fixed O. & M. Costs	_____	_____
(b) Variable O. & M. Costs	_____	_____
(c) Replacement Cost	_____	_____
(d) Subtotal Treatment [(a)+(b)+(c)]	_____	_____
2. COLLECTION SYSTEM:		
(e) Fixed O. & M. Costs	_____	_____
(f) Variable O. & M. Costs	_____	_____
(g) Replacement Cost	_____	_____
(h) Subtotal Collection [(e)+(f)+(g)]	_____	_____
3. MISCELLANEOUS:		
(j) Overhead/Indirect	_____	_____
(k) Operating Reserve	_____	_____
(m) Other	_____	_____
(n) Subtotal miscellaneous [(j)+(k)+(m)]	_____	_____
4. TOTAL VARIABLE COST [(b)+(f)]	_____	_____
5. TOTAL FIXED COST [(a)+(c)+(e)+(g)+(n)]	_____	_____
6. TOTAL O. M. & R. COST [(4)+(5)]	_____	_____
7. CAPITAL REPLACEMENT FUND	_____	_____
8. DEBT SERVICE (Principal & Interest)	_____	_____
9. WASTEWATER CAPITAL RECOVERY FUND (WCRF)	_____	_____

FORM 2: ANNUAL O. M. & R. AND NONOPERATING COSTS

1. PURPOSE:

- a. To show current year O.M.& R. costs and estimated "first year" O.M.& R. costs in accordance with Section 1-2 A. (Page G - 3) of these Guidelines.
- b. To show current year administration costs and estimated administration costs in accordance with Section 1-4 F. (Page G - 7) of these Guidelines. See also notes for Form 5.
- c. To establish an operating reserve fund as discussed in Section 1-2 E. (Page G - 4) of these Guidelines. Operating reserves are strongly recommended, but not required, by these Guidelines.
- d. To establish a wastewater capital reserve fund (WCRF) as required by Section 1-2, D (Page G - 4) of these Guidelines.

2. TO COMPLETE THE FORM:

- a. Each municipality should enter cost data as required. For regional facilities, the lead agency and each subscribing municipality should enter on this form only the cost incurred on its own facilities. For example, the lead municipality may operate and maintain the treatment plant and interceptor and each subscribing municipality may operate and maintain its own collection system.
- b. Fixed costs* are those costs which do not vary directly with flow (i.e. labor, testing, debt service, etc.). Replacement costs, which are normally fixed costs, must be separately identified.
- c. Variable costs* are costs which vary directly with flow (i.e. chemicals, utility costs, etc.).
- d. Methods for estimating the amount of reserves to be established in the operating reserve fund are set forth in Section 1-2 E. (Page G-4) of these Guidelines.
- e. Show current and "first year" debt service (principal and interest) on line 8.

3. NOTES:

- a. Replacement costs will be calculated in accordance with Section 1-2 B. (Page G - 3) of these Guidelines. Records showing computations will be retained by the municipality and are subject to review.
- b. Minimum annual payment to the WCRF will be calculated in accordance with SRF Loan Policy.

* Separating costs into fixed/variable components is optional. All costs, except replacement may be combined if desired.

FORM 3 Capital Cost Allocation

(Instructions on back of page)

Municipality _____

Date _____

(A) ITEM	(B) TOTAL COST	FLOW		BOD		SS	
		(C) %	(D) FLOW COST [(B) x (C)]	(E) %	(F) BOD COST [(B) x (E)]	(G) %	(H) SS COST [(B) x (G)]
1. Collection System							
2. Interceptors							
3. Treatment Plant							
4. Outfall/Disposal							
5. Other Facilities							
6. Subtotal Construction							
7. Const. Administration							
8. Planning/Design Cost							
9. _____							
10. _____							
11. _____							
12. _____							
13. _____							
14. Total All Costs							
15. Outside Funding							
16. Local Funding [(14)-(15)]							

FORM 3: CAPITAL COST ALLOCATION

1. PURPOSE:

- a. To show computation of capital cost percentages, to be allocated among users, for flow, BOD₅ and SS. Other parameters must be shown if applicable.
- b. To compute local cost if construction costs are reimbursed by grants from others.

2. TO COMPLETE THE FORM:

- a. Enter total costs of collection system, treatment facilities, and disposal facility, etc., in Column (B).
- b. Allocate cost for flow, BOD₅, and SS for treatment facilities according to parameters developed for each component based on actual experience and records or use percentages shown in the **List Of Useful Lives And Allocation Parameters** on Page G - 19 of these Guidelines. Enter totals only, but retain work papers for subsequent review. Collection system and disposal facility costs will be allocated 100 percent to flow.
- c. Enter any outside funding on Line 15. Outside funding for treatment facilities must be allocated on the same basis as the costs on Line 3.

3. NOTES:

- a. Administration costs may be allocated among flow, BOD₅, and SS based on any reasonable formula supported by the municipality's experience. [see also Note 3.a. on Form 4 Instructions]
- b. Form 3 is optional. It may be used if the municipality has no other means to determine the division of the O. M. & R. expenses between flow, BOD₅ removal costs and SS removal costs.

FORM 4 Unit Cost Determination

(Instructions on back of page)

Municipality _____

Date _____

(A) COST CATEGORY	(B) Parameter Allocation Percentage	(C) Annual Cost Allocated to Parameter	(D) Total Annual Quantities	(E) Unit Cost For Each Parameter
1. Variable portion O. M. & R.:				
(a) Flow				
(b) BOD				
(c) SS				
(d) I/I				
(e) Other				
2. Fixed portion O. M. & R.:				
(f) Flow				
(g) BOD				
(h) SS				
(i) I/I				
(j) Other				
3. Capital Replacement:				
(k) Flow				
(l) BOD				
(m) SS				
(n) I/I				
(o) Other				
4. Debt Service:				
(p) Flow				
(q) BOD				
(r) SS				
(s) I/I				
(t) Other				
5. WCRF:				
(u) Flow				
(v) BOD				
(w) SS				
(x) I/I				
(y) Other				

FORM 4: UNIT COST DETERMINATION

1. PURPOSE:

- a. To calculate the unit cost for each parameter.

2. TO COMPLETE THE FORM:

- a. In Column (B) list the parameter allocation percentages determined from Form 3 or from prior municipality experience. For infiltration/inflow (I / I), the allocation will be based on percentage of flow parameter only. This is calculated from Form 1 by dividing annual I / I volume in Column (I) by total annual volume in Column (I).
- b. In Column (C) allocate annual costs to each parameter. Annual fixed and variable O. M. & R., operating reserve fund, and debt service costs are obtained from Form 2. Capital replacement fund and wastewater capital recovery fund costs must be determined by the requirements of these Guidelines.
- c. Total quantities for Column (D) are obtained from Form 1. Modify total flow for I / I. (See Note 3.d. below)
- d. Unit costs in Column (E) are obtained by dividing total cost for each parameter in Column (C) by the corresponding total quantity in Column (D).

3. NOTES:

- a. O. M. & R. costs are normally allocated to the cost of: [1] the collection, transport, treatment and disposal of the wastewater flow, [2] the cost of removal of BOD₅ or COD from the wastewater, and [3] the cost of removal of SS from the wastewater. Additional parameters may be used if the municipality has specific processes or costs attributable to the additional parameter (such as nitrogen removal). The basis for the O. M. & R. cost allocation is the accounting of the actual costs of the municipality's wastewater system and the allocation of the actual costs based on the input from the wastewater plant operators. If a municipality does not have the data to determine the actual percentage of O. M. & R. costs to allocate to each parameter the municipality may use the capital cost allocations from Form 3 or any other allocation formula which can be justified by the municipality (see Section 1-4 A.1. of these Guidelines).
- b. A participating or subscribing municipality should have separate unit cost determinations which show those costs incurred prior to discharging wastewater into facilities controlled and operated by the regional municipality.
- c. Operating reserves can be shown in O. M. & R., Item 4, Column (C). However, if separate, show on separate Form 4.
- d. Total design quantities may be used for debt service and capital replacement. Total annual quantities will be used for variable and fixed O. M. & R.

(Instructions on back of page)

Date_____

[illegible]

FORM 5v: SUMMARY OF VARIABLE PORTION OF O. M. & R. COSTS

1. PURPOSE:

- a. To calculate the total costs for each user (user group) based on the variable portion of the O. M. & R. costs. A separate Form 5 will be used for each fund utilized.

2. TO COMPLETE THE FORM:

- a. Columns (A) & (B) are the same as Form 1 Columns (A) & (B).
- b. For Columns (C), (E) & (G) fill in the corresponding parameters from the respective Column (I), (J) or (K) on Form 1 for each user (user group) listed. Annual capacity and quantities must be used for variable portion of the O. M. & R. costs.
- c. For Columns (D), (F) & (H) (Unit Cost) place the unit cost developed on Form 4, Column (E), at the top of each column. The appropriate dollar amount on each line is calculated by multiplying the amount in Column (C), (E) or (G) by the appropriate unit cost at the top of the column.
- d. Column (I) is a summation of costs from Columns (D), (F) and (H) for each user (user group).

3. NOTES:

- a. If the operating reserve fund is not included in either the variable or the fixed portions of the O. M. & R. costs a separate Form 5 will be required for the operating reserve fund. The applicable unit parameters for the operating reserve fund may be the same as for either the variable or the fixed portions of the O. M. & R. costs.
- b. Administration costs can be either included with the variable or the fixed portions of the O. M. & R. costs or calculated separately as a separate fund. One method of allocation is to divide the total administrative cost by the total number of users (connections) and then multiply this unit cost by the number of users in each user group for the cost in Column (I).

FORM 5f Summary of Fixed Portion of O. M. & R. Costs

(Instructions on back of page)

Municipality_____

Date_____

[illegible]

FORM 5f: SUMMARY OF FIXED PORTION OF O. M. & R. COSTS

1. PURPOSE:

- a. To calculate the total costs for each user (user group) based on the fixed portion of the O. M. & R. costs. A separate Form 5 will be used for each fund utilized.

2. TO COMPLETE THE FORM:

- a. Columns (A) & (B) are the same as Form 1 Columns (A) & (B).
- b. For Columns (C), (E) & (G) fill in the corresponding parameters from the respective Column (I), (J) or (K) on Form 1 for each user listed. Annual capacity and quantities must be used for the fixed portion of the O. M. & R. costs.
- c. For Columns (D), (F) & (H) (Unit Cost) place the unit cost developed on Form 4, Column (E), at the top of each column. The appropriate dollar amount on each line is calculated by multiplying the amount in Column (C), (E) or (G) by the appropriate unit cost at the top of the column.
- d. Column (I) is a summation of costs from Columns (D), (F) and (H) for each user (user group).

3. NOTES:

- a. If the operating reserve fund is not included in either the variable or the fixed portions of the O. M. & R. costs a separate Form 5 will be required for the operating reserve fund. The applicable unit parameters for the operating reserve fund may be the same as for either the variable or the fixed portions of the O. M. & R. costs.
- b. Administration costs can be either included with the variable or the fixed portions of the O. M. & R. costs or calculated separately as a separate fund. One method of allocation is to divide the total administrative cost by the total number of users (connections) and then multiply this unit cost by the number of users in each user group for the cost in Column (I).

(Instructions on back of page)

Date_____

[illegible]

FORM 5c: SUMMARY OF CAPITAL REPLACEMENT FUND COSTS

1. PURPOSE:

- a. To calculate the total costs for each user (user group) based on the capital replacement fund costs.

2. TO COMPLETE THE FORM:

- a. Columns (A) & (B) are the same as Form 1 Columns (A) & (B).
- b. For Columns (C), (E) & (G) fill in the corresponding parameters from the respective Column (I), (J) or (K) on Form 1 for each user listed. The municipality should decide if annual or design capacity and quantities will be used for the capital replacement fund. [See Note 3.a. below]
- c. For Columns (D), (F) & (H) (Unit Cost) place the unit cost developed on Form 4, Column (E), at the top of each column. The appropriate dollar amount on each line is calculated by multiplying the amount in Column (C), (E) or (G) by the appropriate unit cost at the top of the column.
- d. Column (I) is a summation of costs from Columns (D), (F) and (H) for each user (user group).

3. NOTES:

- a. If the municipality uses design capacity and quantities in the capital replacement fund calculations the revenue from user fees alone will not generate sufficient revenue for full funding of this expense. Other revenue from standby charges, connection fees, etc. must be used to fully fund this cost.

(Instructions on back of page)

Date_____

[illegible]

FORM 5d: SUMMARY OF DEBT SERVICE FUND COSTS

1. PURPOSE:

- a. To calculate the total costs for each user (user group) based on the debt service fund costs.

2. TO COMPLETE THE FORM:

- a. Columns (A) & (B) are the same as Form 1 Columns (A) & (B).
- b. For Columns (C), (E) & (G) fill in the corresponding parameters from the respective Column (I), (J) or (K) on Form 1 for each user listed. The municipality should decide if annual or design capacity and quantities will be used for the debt service fund. [See Note 3.a. below]
- c. For Columns (D), (F) & (H) (Unit Cost) place the unit cost developed on Form 4, Column (E), at the top of each column. The appropriate dollar amount on each line is calculated by multiplying the amount in Column (C), (E) or (G) by the appropriate unit cost at the top of the column.
- d. Column (I) is a summation of costs from Columns (D), (F) and (H) for each user (user group).

3. NOTES:

- a. If the municipality uses design capacity and quantities in the debt service fund calculations the revenue from user fees alone will not generate sufficient revenue for full funding of the required debt service needed. Other revenue from standby charges, connection fees, etc. must be used to fully fund this cost.

(Instructions on back of page)

Date_____

[illegible]

FORM 5w: SUMMARY OF WASTEWATER CAPITAL RESERVE FUND COSTS

1. PURPOSE:

- a. To calculate the total costs for each user (user group) based on the wastewater capital reserve fund costs.

2. TO COMPLETE THE FORM:

- a. Columns (A) & (B) are the same as Form 1 Columns (A) & (B).
- b. For Columns (C), (E) & (G) fill in the corresponding parameters from the respective Column (I), (J) or (K) on Form 1 for each user listed. The municipality should decide if annual or design capacity and quantities will be used for the wastewater capital reserve fund. [See Note 3.a. below]
- c. For Columns (D), (F) & (H) (Unit Cost) place the unit cost developed on Form 4, Column (E), at the top of each column. The appropriate dollar amount on each line is calculated by multiplying the amount in Column (C), (E) or (G) by the appropriate unit cost at the top of the column.
- d. Column (I) is a summation of costs from Columns (D), (F) and (H) for each user (user group).

3. NOTES:

- a. If the municipality uses design capacity and quantities in the wastewater capital reserve fund calculations the revenue from user fees alone will not generate sufficient revenue for full funding of the fund. Other revenue from standby charges, connection fees, etc. must be used to fully fund this expense.

(Instructions on back of page)

Date _____

[illegible]

FORM 6: SUMMARY OF TOTAL ANNUAL REVENUE REQUIRED

1. PURPOSE:

- a. To sum up individual fund costs from Forms 5v through 5w.

2. TO COMPLETE THIS FORM:

- a. Columns (A) & (B) are the same as Form 1, Columns (A) & (B).
- b. Columns (C) through (G) - transfer appropriate fund costs from the appropriate Form 5, Column (I).
- c. Column (H) is a summation of Columns (C) through (G).
- d. Column (I) is the amount in Column (H) divided by the number of users in Column (A).
- e. Column (J) is the average payment required in each user group and is determined by dividing average annual revenue required in Column (I) by the number of billing periods in a year.

3. NOTES:

- a. Use only those columns (C) through (G) applicable to your revenue program and the appropriate Form 5(s) used.

FORM 7 Rate Determination and Revenue Program Summary
(Instructions on back of page)

Municipality_____

Date_____

FORM 7 RATE DETERMINATION AND REVENUE PROGRAM SUMMARY

1. PURPOSE:

- a. To show the proposed method for collecting the total annual revenue shown on Form 6, Column (I). The municipality must develop a user charge system that results in a distribution of costs which are reasonably proportional to each user's (user group) contribution to the costs of the wastewater treatment works.
- b. To show a summary of total revenues and total disbursements.

2. TO COMPLETE THE FORM:

- a. Charge systems may include a combination of one or more of the following:
 - 1. Flat rates.
 - 2. Rates based on water consumption.
 - 3. Rates based on monitoring.
 - 4. Connection fees.
 - 5. Standby charges.
 - 6. Ad valorem taxes. [see 40 CFR 35.2140(b) for limitations]
- b. The summary of total revenues and disbursements should include a complete breakdown of revenue sources and disbursements into the various fund structures.

3. NOTES:

- a. SWRCB staff will review the wastewater user charge system to determine if the municipality will collect sufficient revenue to support adequate O. M. & R. of the wastewater treatment works and if the users of the wastewater treatment works are charged in proportion to their actual use as required by 40 CFR 35.2140.